

Owners Manual

AQUAPro9 **DRINKING WATER SYSTEMS**



AquaPro-9

AQUAPro9

DRINKING WATER SYSTEMS

REVERSE OSMOSIS SYSTEM

Congratulations on choosing the AquaPro-9 Reverse Osmosis System. Our high quality reverse osmosis system has been designed and tested to give you trouble free performance for many years with proper maintenance.

How is water contaminated?

Being the world's universal solvent, water constantly dissolves and absorbs contaminants while traveling miles from its source to you.

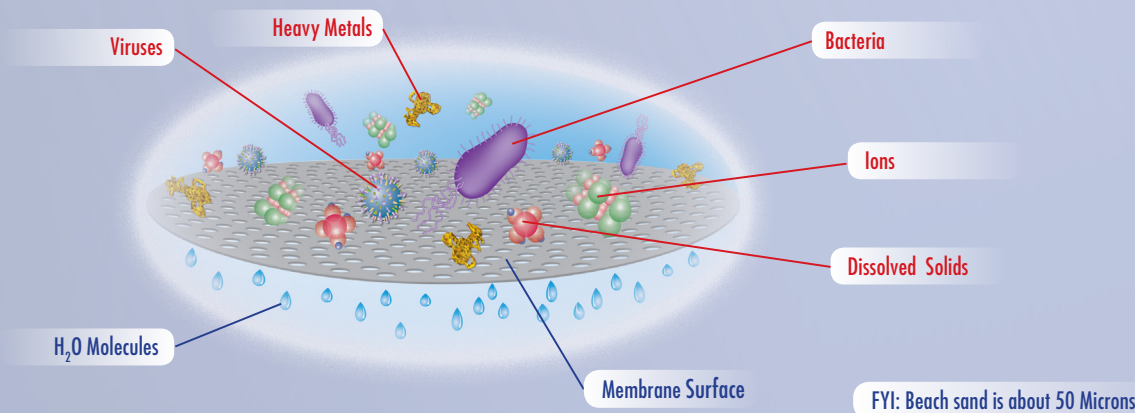
Contaminants such as Heavy Metals, Salts, Dissolved Solids, Bacteria, and sometimes viruses may find their way in to your water supply.



How does reverse osmosis work?

Water pressure forces smaller H₂O molecules through very tiny semi-permeable membrane pores, which measure 0.0001 microns. This acts as a barrier to contaminants, which are rejected by the membrane and flushed down the drain.

With the AQUAPro9 purification technology and breakthrough engineering, it is the finest level of filtration available.

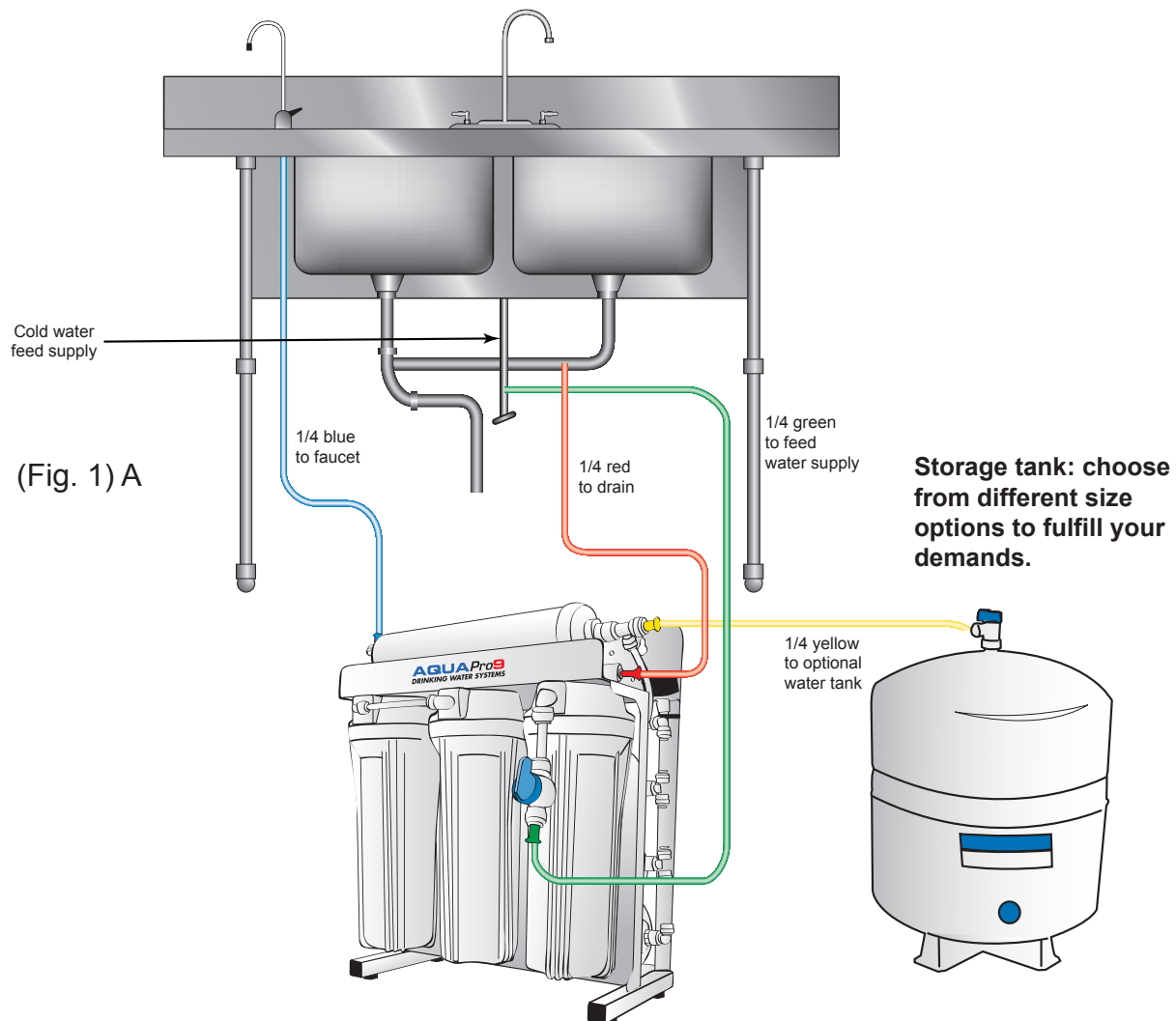


Dependable • Always Pure • Always Fresh



518-899-5555

TYPICAL INSTALLATION DIAGRAM FOR AquaPro-9 SYSTEM



WARNING:

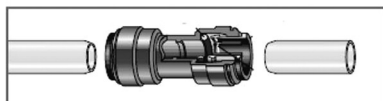
CONNECT YOUR SYSTEM TO THE COLD WATER SUPPLY ONLY. DO NOT USE WATER SUPPLY THAT IS MICRO-BIOLOGICALLY UNSAFE, OR OF UNKNOWN SOURCE WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

COLOR OF TUBE	TUBE O.D.	DESCRIPTION
Green	1/4"	Feed Water Line
Red	1/4"	Reject (Flow Restrictor) to Drain Line
Yellow	1/4"	Pure Water to Storage Tank
Blue	1/4"	Pure Water to Faucet, Refrigerator, or End Use.

EZ FITTINGS- QUICK CONNECT

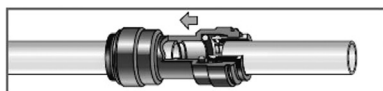
Your AquaPro-9 reverse osmosis system is equipped with EZ fittings. The quick connect fittings feature leak proof installations. EZ Fittings provide efficient quick connection and disconnection resulting in reduction of service time and labor cost.

1 Cut tube into square



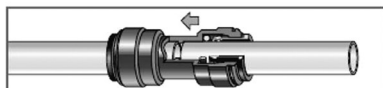
Cut the tube square. It is essential that the outside diameter be free of score marks and that burrs and sharp edges be removed before inserting into fittings. For soft thin walled plastic tubing, we recommend the use of a tube insert.

2 Insert tube



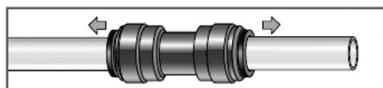
Fitting grips before it seals. Ensure tube is pushed into the tube stop.

3 Push up to tube stop



Push the tube into the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the 'O' ring provides a permanent leak proof seal.

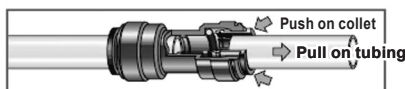
4 Pull to check secure



Pull on the tube to check that it is secure. It is a good practice to test the system prior to leaving site and/or before use.

Disconnecting

Push in collet and remove tube



To disconnect, ensure the system is depressurized before removing the tube. Push in collet squarely against face of fitting. With the collet held in the position, the tube can be removed. The fitting can then be re-used.

(Fig.9)

START UP PROCEDURE

- 1) Check to see all connections are made
- 2) Check that the pre-filter and pre-carbon sumps are secure with "O" rings in place using the housing wrench provided.
- 3) Make sure all ball valves feeding pure water to other appliances are in the closed position.
- 4) Slowly turn on the water by turning the needle valve counterclockwise or ball valve 1/4 turn, where handle is parallel to the tubing line.
- 5) The valve handle on bottom of the tank should be in the open position, parallel to the valve body.
- 6) The handle of the faucet should be in the closed position.
- 7) Check for leaks.
- 8) The AquaPro-9 drinking water system makes 2 gallons of drinking water per hour and requires few hours before water is readily available depending on the size of the storage tank used.
- 9) During this initial fill period, you will hear water being discharged through the red drain line. This is normal as the contaminated water is being rejected by the reverse osmosis membrane. Wait a few hours until system shuts off completely.

WARNING: DO NOT DRINK WATER FROM THE FIRST TANK PRODUCED BY THE SYSTEM. COMPLETELY DRAIN IT FROM THE STORAGE TANK BY OPENING THE FAUCET. DISCHARGING MIGHT TAKE UP TO 15 MIN. TIME WILL DEPEND ON SIZE OF STORAGE TANK USED.

- 10) Storage tank must be filled again before opening the ball valves feeding external appliances. It is also recommended to flush out the first few gallons from each external appliance before use.

CAUTION: ALWAYS CONSIDER ELECTRICAL SHOCK HAZARD WHEN WORKING WITH AND HANDLING ELECTRICAL EQUIPMENT. IF UNCERTAIN, CONSULT AN ELECTRICIAN. ELECTRICAL WIRING SHOULD ONLY BE DONE BY A QUALIFIED ELECTRICIAN PER LOCAL AND STATE ELECTRICAL CODES.

If you have any difficulties with the installation, or require additional information on your unit please consult your local dealer.

We thank you for purchasing our AquaPro-9 Reverse Osmosis drinking water unit. In order to maintain high quality pure water, it is important that scheduled maintenance be followed.

RECOMMENDED MAINTENANCE

- 1) Sediment Pre-filter: The Pre-Filter protects the system and should be maintained regularly. The Pre-Filter should be changed when the outside discolors to a cardboard brown color and before the inner core discolors. The life of the Pre-Filter will depend upon condition of your water supply. Always make sure that o-rings are seated properly inside sumps before tightening canisters.
- 2) Carbon Blocks: Designed to remove chlorine from the water supply, as well as organic and inorganic substance before entering the TFC membrane (average life 12 months). Always make sure that o-rings are seated properly inside sumps before tightening canisters.
- 3) Post-Carbon: The post-filter should be changed when you experience an unusual taste and/or odor to the water and has a nominal life of 12 months.
- 4) Membrane: The high quality Thin Film Composite membrane should last 2 years depending on the quality of your local water & water usage.
- 5) Drain your storage tank frequently to ensure the freshness of the water in the storage tank by lifting the faucet handle into the open position until water flow stops from the tank. Return the faucet handle to the closed position and the tank will refill in a few hours. It is best to drain the system before retiring for the evening

CAUTION: Do not use the AquaPro-9 System on feedwater pressure above 80 psi. If feedwater pressure is above 80 psi, a pressure regulator must be installed before the system. The pressure regulator must be set at 60 psi.

IMPORTANT NOTES-MUST READ:

- 1) *Your AquaPro-9 system has been thoroughly tested and inspected for production, leaks, and shut-off functions at our factory. Therefore, it might have some water in it.*
- 2) *Do not use this system on feed water that has biological contamination or if feed water is of unknown source.*
- 3) *All local plumbing codes must be followed to ensure proper installation and use of your AquaPro-9 RO System.*
- 4) *Should you require additional information or need further technical assistance on AquaPro-9 system, contact your local dealer.*

CHANGING THE FILTERS

CAUTION: ANY REPLACEMENT FILTERS OR MEMBRANES NOT RECOMMENDED BY THE FACTORY CAN CAUSE SEVERE DAMAGE TO THE SYSTEM AND VOID ALL WARRANTIES.

MAINTENANCE

Before starting maintenance, check the reverse osmosis system for TDS reduction to determine if membranes will or will not need to be changed.

If TDS reduction is less than 90% concentration, then the membrane should be replaced.

- 1) Shut off the water supply to the system.
- 2) Close storage tank ball valve and ball valves feeding the external water using appliances.
- 3) Open the dispensing faucet to depressurize the system. (Allow 2 to 3 minutes).
- 4) Remove the filter housings by turning counter-clockwise.
- 5) Remove old filters and clean housings with a mild soap and water solution.
- 6) Check o-rings for deterioration and lubricate with an approved FDA silicone lubricant for o-rings or replace if needed.
- 7) Insert the appropriate new filters inside housings and replace them by mounting them in to position. Make hand tight plus 1/8 to 1/4 turn with housing wrench. DO NOT OVER-TIGHTEN. Over-tightening will cause cracks and leaks if not careful.

CAUTION: ALWAYS MAKE SURE THAT “O”-RINGS ARE SEATED PROPERLY INSIDE SUMPS BEFORE TIGHTENING CANISTERS.

- 8) If a membrane needs changing, remove the inlet tubing to the housing, unscrew the cap, and pull the membrane out using a needle nosed pliers. Clean the inside of the membrane housing with a mild soap and water solution.
- 9) Lubricate the o-rings on the membrane permeate tube with an approved FDA silicone lubricant. Insert into the housing with brine seal towards the opening. Make sure membrane is fully inserted and seated into place.
- 10) Reseal the membrane housing with the cap and reconnect tubing.
- 11) To replace the carbon in-line post filter, remove the tubing and fittings at either end. Clean the old Teflon tape off the threads and apply new tape. Screw the fittings into the new cartridge paying close attention to the flow direction. Reinsert tubing.

REPLACEMENT FILTERS:

STAGE	PART #	DESCRIPTION	EXPECTED LIFE*
1	DB-10-5	5-Micron Sediment Filter	12 Months
2	DB-10-1	1-Micron Sediment Filter	12 Months
3	UDF-10	Granular Activated Carbon Filter	12 Months
4	TW30-1812-50	RO Membrane TFC 50 GPD	24 Months
5	K2540-BB	Inline Coconut Shell GAC	12 Months
6th & 7th	K5662-BB	Inline Deionization Filters	12 Months
8	K2540-BB	Inline Coconut Shell GAC	12 Months
9	G6T5-6W	Ultraviolet Bulb 6 Watt	24 Months

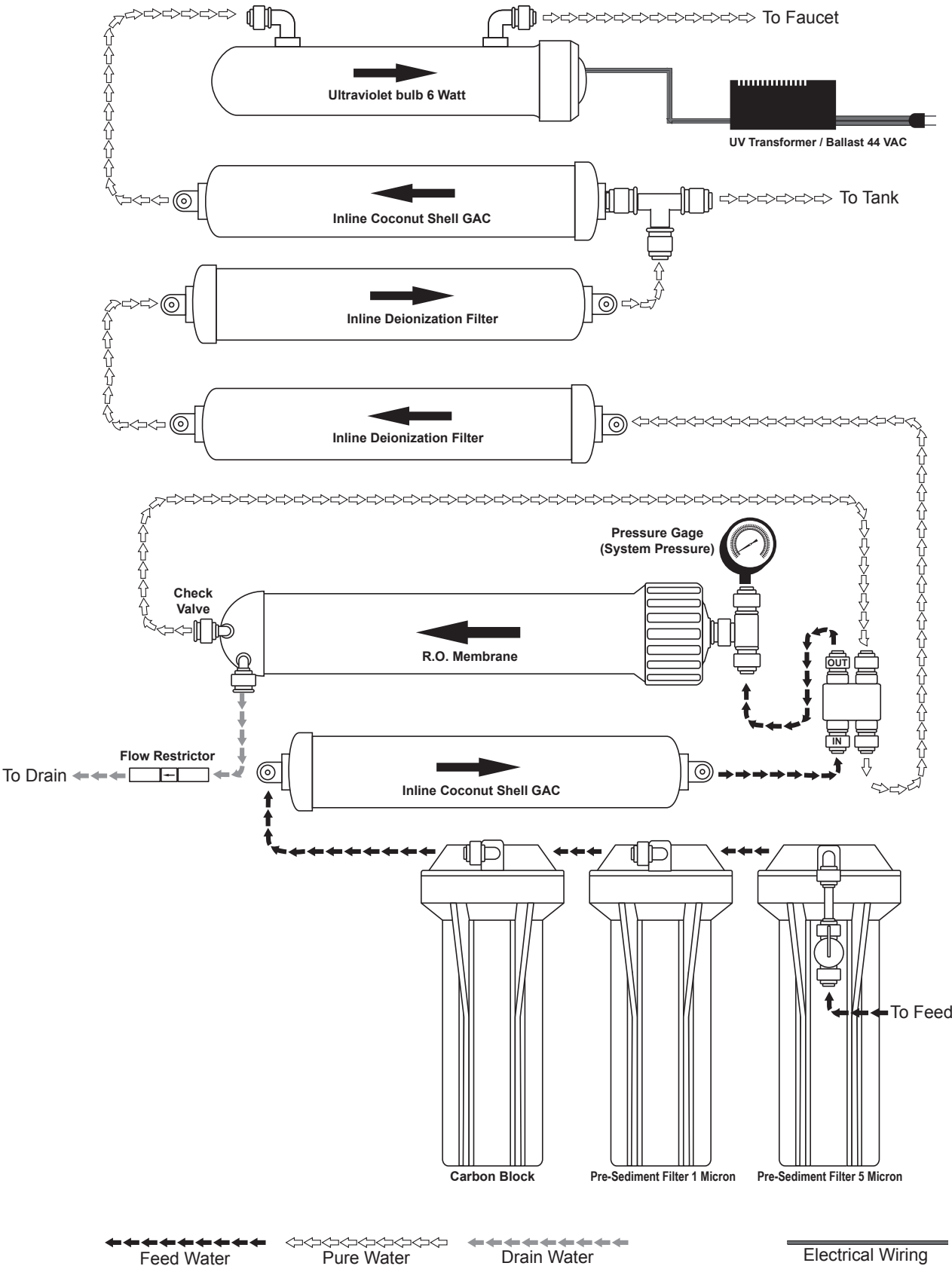
* Depending on Quality of Feed Water and amount of water consumed.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTIONS
UNIT FAILS TO PRODUCE WATER	1) WATER SUPPLY IS TURNED OFF.	1) TURN WATER SUPPLY ON. 2) CHECK TO MAKE SURE FEED VALVE IS NOT CLOGGED.
	2) NOT ENOUGH WATER PRESSURE TO SYSTEM.	1) CHECK FEED WATER PRESSURE. MUST BE AT LEAST 10PSI.
	3) PREFILTERS CLOGGED.	1) CHANGE PREFILTERS.
	4) FLUSH VALVE ON UNIT IS IN THE OPEN POSITION.	1) CLOSE THE FLUSH VALVE.
	5) PUMP NOT WORKING	1) MAKE SURE TRANSFORMER IS PLUGGED TO ELECTRICAL OUTLET 2) REPLACE TRANSFORMER IF BURNED 3) REPLACE HI AND/OR LOW PRESSURE SWITCHES
	6) SOLENOID VALVE NOT WORKING	1) REPLACE SOLENOID VALVE
MILKY COLORED WATER	1) AIR IN SYSTEM	1) AIR IN SYSTEM IS A NORMAL OCCURRENCE WITH INITIAL STARTUP OF THE RO SYSTEM. THIS MILKY LOOK DISAPPEARS DURING NORMAL USE WITHIN 1 TO 2 WEEKS.
UNIT PRODUCES WATER BUT ONLY GETTING A SMALL AMOUNT OUT OF TANK.	1) TANK BALL VALVE IS IN THE CLOSED POSITION.	1) OPEN THE TANK BALL VALVE.
	2) PREFILTERS ARE CLOGGED.	1) CHANGE PREFILTERS.
	3) MEMBRANE IS FOULED.	1) CHANGE MEMBRANE. 2) FIND REASON FOR FOULING. TO PREVENT FUTURE OCCURRENCE.
	4) SYSTEM JUST STARTING UP	1) NORMALLY IT TAKES 3-5 HOURS TO FILL THE STORAGE TANK. LOW WATER PRESSURE AND/OR TEMPERATURES CAN REDUCE PRODUCTION RATE.
	5) AIR PRESSURE IN STORAGE TANK IS LOW	1) ADD PRESSURE TO STORAGE TANK. THE PRESSURE SHOULD BE 8-10 PSI WHEN THE TANK IS EMPTY.
SLOW PRODUCTION	1) LOW WATER PRESSURE	1) MAKE SURE PUMP IS WORKING.
	2) CRIMPS IN TUBING	1) MAKE SURE TUBING IS STRAIGHT.
	3) CLOGGED PREFILTERS	1) REPLACE PREFILTERS.
	4) FOULED MEMBRANE	1) REPLACE MEMBRANE.
WATER TASTE OR SMELL OFFENSIVE	1) POST CARBON IS DEPLETED	1) REPLACE POST CARBON.
	2) FOULED MEMBRANE	1) CHANGE MEMBRANE. 2) FIND REASON FOR FOULING. TO PREVENT FUTURE OCCURRENCE.
	3) SANITIZER NOT FLUSHED OUT	1) DRAIN STORAGE TANK AND REFILL IT OVERNIGHT.
NO DRAIN WATER	1) CLOGGED FLOW RESTRICTOR	1) REPLACE FLOW RESTRICTOR
LEAKS	1) FITTINGS ARE NOT TIGHTENED	1) TIGHTEN FITTINGS AS NECESSARY.
	2) MISSING O-RING	1) CONTACT LOCAL DEALER.
	3) MISALIGNMENT OF HOLE IN DRAIN SADDLE	1) REALIGN DRAIN SADDLE
SYSTEM DOES NOT TURN ON	1) NO POWER TO SYSTEM.	1) CHECK PLUG AND CIRCUIT BREAKER.
	2) LOW-PRESSURE SWITCH IS NOT ACTIVATING.	1) CHECK FEED WATER SUPPLY. 2) CHECK PRE-FILTERS FOR CLOGGING. 3) CHECK LOW-PRESSURE SWITCH FOR FAILURE BY MAKING A JUMPER WIRE AND ISOLATE THE SWITCH FROM THE CIRCUIT. IF BAD, REPLACE SWITCH.
	3) CLOGGED PREFILTERS	
	4) TANK MAY NOT BE EMPTY TO THE POINT OF HIGH-PRESSURE SWITCH ACTIVATION.	1) EMPTY TANK.
	5) HIGH-PRESSURE SWITCH FAILURE.	1) MAKE A JUMPER WIRE AND ISOLATE THE SWITCH FROM THE CIRCUIT. IF BAD, REPLACE SWITCH.
	6) TRANSFORMER(S) FAILURE.	1) REPLACE TRANSFORMER(S).
WATER RUNS TO DRAIN ALL THE TIME	1) AUTO SHUTOFF NOT CLOSING.	1) REPLACE AUTO SHUTOFF.
	2) CHECK VALVE ON PRODUCT SIDE NOT HOLDING	1) REPLACE CHECK VALVE.
UNIT PRODUCING WATER TOO RAPIDLY	1) TUBING CONNECTED INCORRECTLY	1) MAKE SURE DRAIN AND PRODUCT LINES ARE CONNECTED PROPERLY.
	2) MEMBRANE FAILURE	1) CHLORINE MAY HAVE PASSED THROUGH TO MEMBRANE. REPLACE MEMBRANE AND CHANGE PREFILTERS. 2) MEMBRANE MISHANDLED OR STORED IMPROPERLY. REPLACE MEMBRANE.
SYSTEM RUNS CONTINUOUSLY	1) SOLENOID VALVE NOT CLOSING.	1) OPEN SOLENOID VALVE AND CHECK FOR DEBRIS.
	2) CHECK VALVE ON PRODUCT WATER NOT HOLDING.	1) REPLACE CHECK VALVE.
	3) HIGH-PRESSURE SWITCH FAILURE.	1) REPLACE HIGH-PRESSURE SWITCH.
	4) TANK IS NOT FULL.	1) ALLOW ENOUGH TIME FOR TANK TO FILL.
	5) DEMAND IS TOO HIGH FOR SYSTEM.	1) RE-EVALUATE SYSTEM SIZING.

Your Reverse Osmosis system is a highly sophisticated machine. We strongly recommend using only trained & experienced technicians for installation and troubleshooting.

AquaPro-9 FLOW AND ELECTRICAL DIAGRAM



AquaPro-9 LIMITED WARRANTY

The AquaPro-9 reverse osmosis system is warranted to be free from defects in materials and workmanship under normal use within the operating parameters listed below. For a period of one year from the date of purchase AquaPro-9 will repair or replace any part of the reverse osmosis system with the exception of the filters and electrical components.

CONDITIONS OF WARRANTY:

H₂O Solutions assumes no responsibility for incidental or consequential damages; for damages arising out of misuse of the product or the use of any unauthorized attachment; for damages resulting from improper installation or for damages resulting from the use of the product with a defective plumbing system.

In no event shall H₂O Solutions be liable for any direct, indirect, special, punitive, incidental, exemplary or consequential damages, attorney's fees or any damages whatsoever, even if AquaPro-9 has been previously advised of the possibility of such damages, whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use, or performance of the AquaPro-9 system.

H₂O Solutions is not responsible or liable for damage to any part of the AquaPro-9 system because of misuse; misapplication; negligence; alteration; accident; installation; neglect; misapplication; physical damage; fouling and/or scaling of the membrane by minerals; sediment; bacterial attack; or operation contrary to our instructions, incompatibility with accessories not authorized for use with the system, or damage caused by freezing, flood, fire, or Act of God.

In no event shall H₂O Solutions, its subsidiaries or affiliates or their respective officers, directors, employees, representatives, dealers or agents be liable for special, incidental, consequential, punitive, indirect or other special damages, including but not limited to, loss of data, use or profits, however caused, whether for breach of contract, negligence or otherwise, and whether or not AquaPro-9 has been advised of the possibility of any such damages.

H₂O Solutions assumes no warranty liability in connection with this reverse osmosis system other than that specified herein. This warranty is in lieu of all other warranties, expressed or implied, including warranties of fitness for a particular purpose.

WARRANTY SERVICE:

H₂O Solutions will provide warranty service under the following conditions:

- 1) Contact your local dealer who will obtain return authorization instructions.
- 2) Ship the unit or part freight prepaid for warranty evaluation or service with RMA # written on package. Systems or parts covered under the warranty shall be repaired (or, at our option replaced) and returned without charge.

CONDITIONS FOR OPERATION

TFC- Thin Film Composite

Source Water Supply

Community/Private	Non-Chlorinated
System Pressure	30-100 psi
Temperature	4°-38° C (40°-100° F)
pH Range	3.0-11.0
Maximum Supply TDS Level	2000 mg/L
Turbidity	<1.0 Net Turbidity (NTU)

Chemical Parameters – TFC

Hardness (CaCO ₃)	<350 mg/L (<20 gpg)
Iron (Fe)	<0.1 mg/L
Manganese (Mn)	<0.05 mg/L
Hydrogen Sulfide (H ₂ S)	0.00 mg/L
Chlorine (Cl ₂)	0.00 mg/L

Do not use the AquaPro-9 System on feedwater pressure above 80 psi. If feedwater pressure is above 80 psi, contact your local dealer for an alternative system.

Although TFC membranes are designed for non chlorinated feed supply, your AquaPro-9 RO system is equipped with double carbon pre-filtration for chlorine reduction prior to the TFC membrane.

AQUAPro9

DRINKING WATER SYSTEMS

Distributed by:



2401 ROUTE 9 • MALTA, NY 12118

518-899-5555 • Fax: 518-899-7013

H2OSOLUTIONS1@GMAIL.COM

Serial # _____